REMARKS

This amendment is responsive to the *Final* Office Action of November 12, 2008. Reconsideration and allowance of **claims 3, 17, and 20-24** are requested.

The Finality of the Office Action is Premature

In the Amendment after Final of October 17, 2008, dependent **claim 3** was placed in independent form including all of the subject matter of **claim 4**, its parent claim. Nothing was added, nothing was deleted.

In the Amendment after Final of October 17, 2008, **claim 8** was amended to correct an error of a typographical nature without changing its substance.

The Amendment of October 17, 2008 did not amend claims 16-20.

Even though independent claims 3, 8, and 16 were not substantively amended, the Examiner withdrew the prior ground of rejection and instituted a new ground of rejection. No amendments were made or new limitations were added which required further search or consideration. If the Examiner has a reference that he believes to be anticipatory it should be applied on the first Office Action and not held back until the third Office Action.

Thus, the new ground of rejection was not necessitated by the Applicant's amendment, but by the Examiners failure to cite Hunsaker et al. or Bell et al. in a timely manner.

This new ground of rejection was not necessitated by the applicant's amendment as asserted by the Examiner in Conclusion of the Office Action.

The Office Action

Claim 3 was objected to for lacking a transitional statement/phrase.

Claims 3, 8, 10-17, and 20-21 were rejected under 35 U.S.C. § 102(b) over Hunsaker et al. (U.S. Patent No. 5,564,108).

Claims 3, 8, 10-17, and 20-21 were rejected under 35 U.S.C. § 102(b) over Bell et al. (U.S. Patent No. 5,664,270).

Claims 3 and 11 were rejected under 35 U.S.C. § 103(a) over Bell in view of Hunsaker.

Claims 10 and 16-17 were rejected under 35 U.S.C. § 112, second paragraph.

The Present Application

The present application is directed to a method of and interface for communicating with a medical device. Either a sensor or an external device such as a PC are connected with the interface. Analog signals are transmitted via the interface from the sensor to the medical device in a measurement mode. Digital signals are transferred via the interface between the external device and the medical device in a communication mode. Only one interface in the medical device functions in both the measurement mode and in the communication mode. For example, a software update can be performed digitally in the medical device are digital data that can be downloaded from the medical device via the interface.

The above description of the present application is presented to the Examiner as background information to assist the Examiner in understanding the application. The above description is not used to limit the claims in any way.

The References of Record

Hunsaker et al. is directed to making use of a existing data collection probe connector as a port through which the software updates are loaded into the programmable memory devices that are used to store the operational software of the instrumentation. Circuitry is provided in the instrumentation to automatically differentiate between software update data being loaded into the instrumentation and the normal monitoring data that is received from the probe. This is accomplished by the use of probe defining circuitry that is able to differentiate between the standard probe used for data collection purposes and the software update probe that is provided to download software into the programmable memory devices.

Bell et al. is directed to a critical care bed for supporting a patient wherein the bed serves as the information conduit between one or more transducers and their respective monitors and or other data recording devices. The bed itself also

includes a processor for processing signals from the transducers received through a universal port which receives any one of a number of conventional lead connections. The transducers function conventionally, providing analog signals corresponding to sensed physiological characteristics of the patient. The processor is adapted for simplifying signal analysis and monitor recognition.

Claim Objections

Claim 3 has been amended to include a transitional statement to further define the scope of the claim.

35 U.S.C. § 112

It is respectfully submitted that **Claim 20** does particularly point out and distinctly claim the subject matter which Applicant claims as the invention. Examiner asserts that the case where "the means for recognizing" is software is indefinite because the written description of the specification discloses no corresponding algorithm. It is submitted that Applicant discloses a corresponding algorithm to the software "means for recognizing" on page 7 lines 15-21 of the specification. On page 7 lines 15-21 of the specification a software routine is described which recognizes whether the data being transmitted is digital or analog.

Further, claim 20 has been amended such that it does not claim an algorithm, *per se*.

Accordingly **claim 20 and claim 23 dependent therefrom** comply with the requirements of 35 U.S.C. § 112.

The Claims Distinguish Patentably
Over the References of Record

Claim 3, 8, 10-17, and 20-21 are not anticipated by Hunsaker et al.

Claim 20 has been amended to incorporate subject matter from independent claim 16 which it was previously dependent on.

More specifically, regarding **claim 20**, Hunsaker does not disclose a process, software routine, or other means that detects whether digital or analog data is received and which switches the interface into the communication mode when digital

signals are received and into the measurement mode when analog signals are received. The Examiner refers Applicant to Col. 4 lines 1-24, Col. 7 lines 7-67 and Col. 8 lines 1-15 of Hunsaker which discloses a medical monitoring system port sharing a data acquisition function to receive information from a monitoring probe and a software update function to receive software update data being loaded into the system. More specifically, Hunsaker discloses a method of determining whether the data is software update data or normal monitoring data by determining the characteristics of the probe which is supplying the data to the port. Hunsaker discloses the use of resistors within the probe or a memory device in the probe to identify the type of probe connected to the port. Hunsaker does not disclose a software program that determines whether the received data is digital or analog data and switches the operating mode of the interface in response to the determination.

Accordingly it is submitted that **claim 20** and **claims 17 and 24** that depend therefrom distinguish patentable over the references of record.

Regarding **claim 3**, Hunsaker does not disclose an interface that provides two-way digital communication. Regarding dependent **claim 21**, Hunsaker does not disclose measuring electrical parameters of the received signals. Regarding **claim 22**, Hunsaker does not detect digital signals. Regarding **claim 23**, Hunsaker does not disclose the interface being configured to replace the interfaces of existing medical devices that could not previously communicate with an external device for supplying software updates and providing normal monitoring data through the use of a single port on the interface of the medical device.

Accordingly it is submitted that **claim 3** and **claims 21-23** that depend therefrom are not anticipated by Hunsaker.

Regarding **claim 25**, Hunsaker does not disclose detecting whether digital data is being transferred. Nor does Hunsaker disclose transferring data from the medical device to the external device.

Accordingly it is submitted that **claim 25** and **claims 26-27** that depend therefrom distinguish patentable over the references of record.

Claims 8, 10-17, and 20-21 are not anticipated by Bell et al. (US 5,664,270).

More specifically, regarding **claim 20**, Bell does not disclose a set of contacts, the contacts being configured to receive (1) a plug connected by a lead to the analog sensor, and (2) a plug connected by a lead with the digital external device, the contacts being configured such that the contacts can only connect with one of the analog sensor plug and the digital external device plug at a time; nor a processing unit that detects whether digital or analog data is received and which switches the interface into the communication mode when digital signals are received and into the measurement mode when analog signals are received. The Examiner refers Applicant to Col. 2 lines 53-67, Col. 3 lines 1-12, Col. 10 lines 47-677, and Col. 11 lines 11-53 which discloses a patient bed having a universal port for receiving any one of a number of conventional lead connectors and a processor that is configured to sense and recognize the received signals. More specifically, Bell discloses a source recognition process for a universal port for receiving transducers leads. Bell does not disclose a universal port for receiving a lead from a digital external device and an analog sensor. Bell discloses a single universal port for receiving a single type of transducer (Bell Col. 7 lines 6-17) but does not disclose that the single universal port can receive leads from an analog sensor and a digital external device supplying a software update. Additionally, Bell does not disclose determining whether the received data is digital from an external device or analog data from a sensor and switches the operating mode of the interface in response to the determination. Bell discloses a source recognition process in which a signal analysis identifies the type of signal being conveyed on a particular pin, and then using pin-mapping to correlate the signals of the various pins of the lead to distinguish an identifying profile sand identify the corresponding signal from a bank of known possible signal sources. Additionally, Bell is directed to identifying the type and make of transducer from a set of one type of transducers. Bell does not disclose identifying types and signals from different inputs such as sensor and external devices.

Accordingly it is submitted that **claim 20** and **claims 17 and 24** that depend therefrom are not anticipated by Bell.

Regarding **claim 25**, Bell does not disclose an interface used in both a measurement mode and a communication mode where software updates can be performed on the medical device via the interface or updating the software of the medical device in general.

Accordingly it is submitted that **claim 25** and **claims 26-27** that depend therefrom are not anticipated by Bell.

Claim 3 is patentable over Bell in view of Hunsaker.

Regarding **claim 3**, Bell does not disclose changing over between receiving analog and digital data. Nor does Bell disclose two-way digital communications. As pointed out above, Hunsaker cures neither of these shortcomings.

Regarding **claims 21 and 22**, Bell does not disclose measuring electrical parameters of signals, particularly whether the signals are digital.

Regarding **claim 3**, Bell does not disclose replacing interfaces of existing medical devices in order to provide digital communication between the existing medical device and digital external devices which interfaces of the existing medical devices were previously unable to communicate with external devices. It is respectfully submitted neither Bell, nor Hunsaker, nor the combination teach or disclose wherein the interface is configured to replace interfaces of existing medical devices in order to provide digital communication between the existing medical device and digital external devices.

Accordingly it is submitted that **claim 3** and **claims 21-23** that depend therefrom distinguish patentably over Bell and Hunsaker.
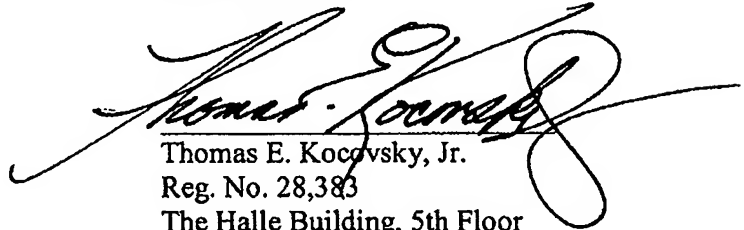
CONCLUSION

For the reasons set forth above, it is submitted that **claims 3, 17, and 20-27** (all claims) distinguish patentably over the references of record and meet all statutory requirements. An early allowance of all claims is requested.

In the event the Examiner considers personal contact advantageous to the disposition of this case, the Examiner is requested to telephone Thomas Kocovsky at 216.363.9000.

Respectfully submitted,

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